



U.S. Geological Survey
Technical Reports on
Water Resources
of Pennsylvania

U.S. Geological Survey Water-Supply Papers

- WSP 106.** Water resources of the Philadelphia district, by Florence Bascom. 1904.
- WSP 108.** Quality of water in the Susquehanna River drainage basin, by M.O. Leighton, with an introductory chapter on Physiographic features, by G.B. Hollister. 1904.
- WSP 109.** Hydrography of the Susquehanna River drainage basin, by J.C. Hoyt and R.H. Anderson. 1905.
- WSP 161.** Quality of water in the upper Ohio River basin and at Erie, Pennsylvania, by S.J. Lewis. 1906.
- WSP 799.** The floods of March 1936--Part 2, Hudson River to Susquehanna River region. 1937 (1938).
- WSP 800.** The floods of March 1936--Part 3, Potomac, James and upper Ohio River; with a section on the Weather associated with the floods of March 1936, by Stephen Lichtblau. 1937 (1938).
- WSP 915.** Major winter and nonwinter floods in selected basins in New York and Pennsylvania, by W.B. Langbein and others. 1947.
- WSP 1134-B.** Floods of July 18, 1942, in north-central Pennsylvania, by W.S. Eisenlohr, Jr., with a section on Descriptive details of the storm and floods, by J.E. Stewart. 1952, p. 59-158.
- WSP 1420.** Floods of August-October 1955, New England to North Carolina, by D.B. Bogart. 1960.
- WSP 1473.** Study and interpretation of the chemical characteristics of natural water, by J.D. Hem. 1970.
- WSP 1526.** Hydraulic and hydrologic aspects of flood-plain planning, by S.W. Wiitala, K.R. Jetter, and A.J. Somerville. 1961.
- WSP 1532-C.** Effects of agricultural conservation practices on the hydrology of Corey Creek Basin, Pennsylvania, 1954-60, by B.L. Jones. 1966.
- WSP 1532-E.** Hydrology and sedimentation of Corey Creek and Elk Run Basins, northcentral Pennsylvania, by L.A. Reed. 1971.
- WSP 1532-F.** Appraisal of stream sedimentation in the Susquehanna River Basin, by K.F. Williams and L.A. Reed. 1972.
- WSP 1532-H.** Sediment transport by streams draining into the Delaware Estuary, by L.J. Mansue and A.B. Comings. 1974.
- WSP 1535-P.** Chemical composition of atmospheric precipitation in the northeastern United States, by F.J. Pearson, Jr., and D.W. Fisher. 1971.
- WSP 1539-H.** Ground-water resources of Olmsted Air Force Base, Middletown, Pennsylvania, by Harold Meisler and S.M. Longwill. 1961.
- WSP 1586-B.** Salinity of the Delaware Estuary, by Bernard Cohen and L.T. McCarthy, Jr. 1962.
- WSP 1586-G.** Fresh-water discharge--salinity relations in the tidal Delaware River, by W.B. Keighton. 1966.
- WSP 1619-W.** Chemical quality of surface waters in Pennsylvania, by C.N. Durfor and P.W. Anderson. 1963.
- WSP 1779-B.** Variations in the chemical character of the Susquehanna River at Harrisburg, Pennsylvania, by P.W. Anderson. 1963.
- WSP 1779-C.** Chemical quality of surface water in the West Branch Susquehanna River Basin, Pennsylvania, by E.F. McCarren. 1964.
- WSP 1779-X.** Quality of Delaware River water at Trenton, New Jersey, by L.T. McCarthy, Jr., and W.B. Keighton. 1964.
- WSP 1798-M.** Sediment characteristics of five streams near Harrisburg, Pennsylvania, before highway construction, by L.A. Reed. 1976.
- WSP 1798-N.** Hydrology and sedimentation of Bixler Run Basin, central Pennsylvania, by L.A. Reed. 1976.
- WSP 1800.** The role of ground water in the national water situation, by C.L. McGuinness. 1963.
- WSP 1809-O.** Delaware River water quality, Bristol to Marcus Hook, Pennsylvania, August 1949 to December 1963, by W.B. Keighton. 1965.
- WSP 1812.** Public water supplies of the 100 largest cities in the United States, 1962, by C.N. Durfor and Edith Becker. 1964.

U.S. Geological Survey Water-Supply Papers--Continued

- WSP 1829.** Swatara Creek Basin of southeastern Pennsylvania--An evaluation of its hydrologic system, by W.T. Stuart, W.J. Schneider, and J.W. Crooks. 1967.
- WSP 1835.** Chemical quality of surface water in the Allegheny River Basin, Pennsylvania and New York, by E.F. McCarren. 1967.
- WSP 1871.** Water data for metropolitan areas, compiled by W.J. Schneider. 1968.
- WSP 1879-H.** Water quality and discharge of streams in the Lehigh River Basin, Pennsylvania, by E.F. McCarren and W.B. Keighton. 1969.
- WSP 1899-I.** Streamflow from the United States into the Atlantic Ocean during 1931-60, by C.D. Bue. 1970.
- WSP 1990.** Annotated bibliography on artificial recharge of ground water, 1955-67, by D.C. Signor, D.J. Growitz, and William Kam. 1970.
- WSP 1990-O.** Water quality of streams in the Neshaminy Creek Basin, Pennsylvania, by E.F. McCarren. 1972.
- WSP 2020.** Subsurface waste disposal by means of wells--A selective annotated bibliography, by D.R. Rima, E.B. Chase, and B.M. Myers. 1971.
- WSP 2035.** Geohydrologic reconnaissance of the upper Potomac River Basin, by F.W. Trainer and F.A. Watkins, Jr. 1975.
- WSP 2042.** Mean annual runoff in the Upper Ohio River Basin, 1941-70, and its historical variation, by R.M. Beall. 1978.
- WSP 2054.** Effectiveness of sediment-control techniques used during highway construction in central Pennsylvania, by L.A. Reed. 1978.
- WSP 2072.** Suspended-sediment discharge, in five streams near Harrisburg, Pennsylvania, before, during, and after highway construction, by L.A. Reed. 1980.
- WSP 2250.** National water summary 1983; hydrologic events and issues. 1984.
- WSP 2256-A.** Distribution and transport of trace substances in the Schuylkill River Basin from Berne to Philadelphia, Pennsylvania, by J.K. Stamer, T.H. Yorke, and G.L. Pederson. 1985. (Supersedes Open-file report 83-265.)
- WSP 2256-B.** Effects of low-level dams on the distribution of sediment, trace metals, and organic substances in the lower Schuylkill River Basin, Pennsylvania, by T.H. Yorke, J.K. Stamer, and G.L. Pederson. 1985.
- WSP 2262.** Organochlorine pesticide and polychlorinated biphenyl residues at four trophic levels in the Schuylkill River, Pennsylvania: *in* Selected Papers in the Hydrologic Sciences, by J.L. Barker. 1984.
- WSP 2275.** National water summary 1984; hydrologic events, selected water-quality trends, and ground-water resources. 1985.
- WSP 2276.** Techniques for estimating streamflow characteristics in the Eastern and Interior coal provinces of the United States, by K.L. Wetzel and J.M. Bettendorff. 1986.
- WSP 2300.** National water summary 1985; hydrologic events and surface-water resources. 1986.
- WSP 2325.** National water summary 1986; hydrologic events and ground-water quality. 1988.
- WSP 2284.** Evaluation of the ground-water resources of the Lower Susquehanna River Basin, Pennsylvania and Maryland, by J.M. Gerhart and G.J. Lazorchick. 1988.
- WSP 2346.** Geohydrology and ground-water resources of Philadelphia, Pennsylvania, by G.N. Paulachok. 1991.
- WSP 2350.** National water summary 1987; hydrologic events and water supply and use. 1990.
- WSP 2375.** National water summary 1988-89; hydrologic events and floods and droughts. 1991.
- WSP 2425.** National water summary on wetland resources—selected articles: STATE SUMMARIES.
- WSP 2493.** Evaluation of agricultural best-management practices in the Conestoga River Headwaters, Pennsylvania: A summary report, 1982-90, by P.L. Lietman. 1997.

U.S. Geological Survey Professional Papers

- PP 271.** The natural channel of Brandywine Creek, Pennsylvania, by M.G. Wolman. 1955.
- PP 282-F.** Drainage basins, channels, and flow characteristics of selected streams in central Pennsylvania, by L.M. Brush, Jr. 1961.
- PP 381.** Water resources of the Delaware River Basin, by G.G. Parker, A.G. Hely, W.B. Keighton, F.H. Olmsted, and others. 1964 (1965).
- PP 417-A.** Relation between ground water and surface water in Brandywine Creek Basin, Pennsylvania, by F.H. Olmsted and A.G. Hely. 1962.
- PP 417-B.** Some relations between streamflow characteristics and the environment in the Delaware River region, by A.G. Hely and F.H. Olmsted. 1963.
- PP 473-B.** Field investigation of mine waters in the Northern Anthracite field, Pennsylvania, by Ivan Barnes, W.T. Stuart, and D.W. Fisher. 1964.
- PP 575-C.** Geological Survey Research 1967. Contains the following articles, which are not available separately. The construction and use of flow-volume curves, by E.G. Miller. Hydrogeologic significance of calcium-magnesium ratios in ground water from carbonate rocks in the Lancaster quadrangle, southeastern Pennsylvania, by Harold Meisler and A.E. Becher.
- PP 700-B.** Geological Survey Research 1970. Contains the following article, which is not available separately. High-calcium limestone deposits in Lancaster County, southeastern Pennsylvania, by A.E. Becher and Harold Meisler.
- PP 701-A.** Hydrology of two small river basins in Pennsylvania before urbanization, by R.A. Miller, John Troxell, and L.B. Leopold with a section on Observations of stream fauna, by Ruth Patrick and R.R. Grant, Jr. 1971 (1972).
- PP 750-D.** Geological Survey Research 1971. Contains the following article, which is not available separately. Relationship between ground-water levels and quality in shallow observation wells in Muddy Creek Basin, southeastern York County, Pennsylvania, by D.J. Growitz and O.B. Lloyd, Jr.
- PP 800-C.** Geological Survey Research 1972. Contains the following article, which is not available separately. An evaluation of the use of herbicides to control aquatic weeds in six Pennsylvania recreation lakes, by J.L. Barker.
- PP 813-I.** Summary appraisals of the Nation's ground-water resources - Mid-Atlantic region, by Allen Sinnott and E.M. Cushing. 1978.
- PP 813-J.** Summary appraisals of the Nation's ground-water resources - Great Lakes region, by W.E. Weist, Jr. 1978
- PP 924.** Hurricane Agnes rainfall and floods, June-July 1972, by J.F. Bailey, J.L. Patterson, and J.L.H. Paulhus. 1975.
- PP 1191.** Storm-induced debris avalanching and related phenomena in the Johnstown area, Pennsylvania, with references to other studies in the Appalachians, by J.S. Pomeroy. 1980 (1981).
- PP 1211.** Johnstown-western Pennsylvania storms and floods of July 19-20, 1977, by L.R. Hoxit, R.A. Maddox, and C.F. Chappell, National Oceanic and Atmospheric Administration, and S.A. Brua, U.S. Geological Survey. 1982.

U.S. Geological Survey Bulletins

- 1245-G.** Carbonate rocks of Cambrian and Ordovician age in the Lancaster quadrangle, by Harold Meisler and A.E. Becher. 1968.
- 1331-A.** Mississippian stratigraphy of northeastern Pennsylvania, by G.R. Schiner and G.E. Kimmel. 1972.

U.S. Geological Survey Circulars

- C-104.** Water resources of southeastern Bucks County, Pennsylvania, by J.B. Graham, J.W. Mangan, and W.E. White, Jr. 1951.
- C-174.** Water resources of the Lake Erie shore region in Pennsylvania, by J.W. Mangan, D.W. Van Tuyl, and W.F. White, Jr. 1952.
- C-204.** Floods in Youghiogheny and Kiskiminetas River Basins, Pennsylvania and Maryland, frequency and magnitude. 1952.
- C-257.** The use of water in Pennsylvania, 1951, by J.W. Mangan and J.B. Graham. 1953.
- C-315.** Water resources of the Pittsburgh area, Pennsylvania, by Max Noecker, D.W. Greenman, and N.H. Beamer. 1954.
- C-377.** Floods of August 1955 in the northeastern States. 1956. (See Water-Supply Paper 1420.)
- C-439.** Time and travel of water in the Ohio River, Pittsburgh to Cincinnati, by R.E. Steacy. 1961.
- C-526.** Stream quality in Appalachia as related to coal-mine drainage, 1965, by J.E. Biesecker and J.R. George. 1966.
- C-554.** Hydrology for urban land planning--A guidebook on the hydrologic effects of urban land use, by L.B. Leopold. 1968.
- C-601-A.** Water for the cities--The outlook, by W.J. Schneider and A.M. Spieker. 1969 (1970).
- C-601-D.** Water as an urban resource and nuisance, by H.E. Thomas and W.J. Schneider. 1970.
- C-601-E.** Sediment problems in urban areas, by H.P. Guy. 1970.
- C-601-F.** Hydrologic implications of solid-waste disposal, by W.J. Schneider. 1970.
- C-601-G.** Real-estate lakes, by D.A. Rickert and A.M. Spieker. 1971 (1972).
- C-601-H.** Role of water in urban planning and management, by W.J. Schneider, D.A. Rickert, and A.M. Spieker. 1973.
- C-601-I.** Water facts and figures for planners and managers, by J.H. Feth. 1973.
- C-601-J.** Extent and development of urban flood plains, by W.J. Schneider and J.E. Goddard. 1974.
- C-601-K.** An introduction to the processes, problems, and management of urban lakes, by L.J. Britton, R.C. Averett, and R.F. Ferreira. 1975. (Circular 601 issued only as separate chapters under the general title "Water in the urban environment.")
- C-645.** A procedure for evaluating environmental impact, by L.B. Leopold, F.E. Clark, B.B. Hanshaw, and J.R. Balsley. 1971.
- C-670.** Fluvial-sediment discharge to the ocean from the conterminous United States, by W.F. Curtis, J.K. Culbertson, and E.B. Chase. 1973.
- C-685.** Dissolved-solids discharge to the oceans from the conterminous United States, by D.K. Leifeste. 1974.
- C-686.** Large rivers of the United States, by K.T. Iseri and W.B. Langbein. 1974.
- C-703.** Water demands for expanding energy development, by G.H. Davis and L.A. Wood. 1974.
- C-719.** The National Stream Quality Accounting Network (NASQAN)--Some questions and answers, by J.F. Ficke and R.O. Hawkinson. 1975.
- C-728.** Landsliding in Allegheny County, Pennsylvania, by R.P. Briggs, J.S. Pomeroy, and W.E. Davies. 1975.
- C-745.** Water consumption by nuclear power plants and some hydrological implications, by E.V. Giusti and E.I. Meyer. 1977 (1978).
- C-747.** Environmental geology, Allegheny County and vicinity, Pennsylvania--Description of a program and its results, by R.P. Briggs. 1977.
- C-779.** Geologic disposal of high-level radioactive wastes--Earth-science perspectives, by J.D. Bredehoeft, A.W. England, D.B. Stewart, N.J. Trask, and I.J. Winograd. 1978.
- C-832.** Estimating the costs of landslide damage in the United States, by R.W. Fleming and F.A. Taylor. 1980.
- C-900.** Guide to obtaining USGS information, by K. Dodd, H.K. Fuller, and P.F. Clarke. 1985. (This circular supersedes C-777.)

Journal of Research of the U.S. Geological Survey

Armbruster, J.T., 1976, An infiltration index useful in estimating low flows of drainage basins: v. 4, p. 533-538.

Barker, J.L., 1976, Effects of air injection at Prompton Lake, Wayne County, Pennsylvania: v. 4, no. 1, p. 19-25.

Ritter, J.R., 1974, The effects of the Hurricane Agnes Flood on channel geometry and sediment discharge of selected streams in the Susquehanna River Basin, Pennsylvania: v. 2, no. 6, p. 753-761.

U.S. Geological Survey Hydrologic Investigations Atlases

Hydrologic Investigations Atlases are sold by Map Distribution Section, U.S. Geological Survey, Federal Center, Box 25286, Denver, CO 80225.

HA-57. Floods at Harrisburg, Pennsylvania, by R.E. Steacy and I.A. Heckmiller. 1962.

HA-61. Stream composition of the conterminous United States, by F.H. Rainwater. 1962.

HA-194. Generalized maps showing annual runoff and productive aquifers in the conterminous United States, compiled by C.L. McGuinness. 1964.

HA-198. Water resources of the Appalachian region, Pennsylvania to Alabama, by W.J. Schneider and others. 1965.

HA-199. Preliminary map of the conterminous United States showing depth to and quality of shallowest ground water containing more than 1,000 parts per million dissolved solids, by J.H. Feth and others. 1965.

HA-200. Chemical quality of public water supplies of the United States and Puerto Rico, 1962, by C.N. Durfor and Edith Becker. 1964.

HA-212. Annual runoff in the conterminous United States, by J.F. Blakey. 1966.

HA-246. Floods at Easton, Pennsylvania - Phillipsburg, New Jersey, by G.M. Farlekas. 1967.

HA-248. Floods on the Schuylkill River from Conshohocken to Philadelphia, Pennsylvania, by A.T. Alter. 1967.

HA-295. Ground-water resources of the Appalachian Region, by G.G. Wyrick. 1968.

HA-335. Water quality in the Delaware Estuary for the two years of drought, 1965-1966, from Trenton, New Jersey, to Reedy Island, Delaware, by W.B. Keighton. 1969.

HA-483. Extent and frequency of floods on the Schuylkill River near Norristown, Pennsylvania, by W.F. Busch and L.C. Shaw. 1973.

HA-523. Flood of June 1972 in the Wilkes-Barre area, Pennsylvania, by H.N. Flippo and L.W. Lenfest, Jr. 1973.

HA-530. Flood of June 1972 in the Harrisburg area, Pennsylvania, by L.V. Page and L.C. Shaw. 1974.

HA-541. Flood of June 22-23, 1972, at Lock Haven, Pennsylvania, by H.N. Flippo, Jr. 1975.

HA-676. Water-table map of Philadelphia, Pennsylvania, 1976-1980, by G.N. Paulachok and C.R. Wood. 1984.

HA-697. Distribution of bottom sediments and effects of proposed dredging in the ship channel of the Delaware River between northeast Philadelphia, Pennsylvania and Wilmington, Delaware, 1984, by P.B. Duran. 1986.

HA-705. Distribution of water-quality characteristics that may indicate the presence of acid mine drainage in the eastern coal province of the United States, by K.L. Wetzel and S.A. Hoffman. 1989.

Water-Resources Investigations Reports

- WRI 50-74.** Stream reconnaissance for nutrients and other water-quality parameters, Greater Pittsburgh region, Pennsylvania, by R.M. Beall. 1975. (PB-241 493/AS)
- WRI 76-75.** Occurrence of pesticide residues in four streams draining different land-use areas in Pennsylvania, by J.F. Truhlar and L.A. Reed. 1975. (PB-242 770/AS)
- WRI 76-51.** Technical manual for estimating low-flow frequency characteristics of streams in the Susquehanna River Basin, by J.T. Armbruster. 1976. (PB-255 455/AS)
- WRI 76-57.** Preimpoundment water quality of Raystown Branch Juniata River and six tributary streams, south-central Pennsylvania, by D.R. Williams. 1976. (ADA-027 387)
- WRI 76-66.** Preliminary results of preimpoundment water-quality studies in the Tioga River Basin, Pennsylvania and New York, by J.R. Ward. 1976. (ADA-029 315)
- WRI 76-84.** Limnological survey of Sacony Creek Basin, Berks County, Pennsylvania, by J.L. Barker and K.P. Kulp. 1976. (PB-257 270/AS)
- WRI 76-111.** Sediment discharge from an area of highway construction, Applemans Run Basin, Columbia County, Pennsylvania, by D.A.V. Eckhardt. 1976 (1977). (PB-263 616/AS)
- WRI 77-12.** Flow routing in the Susquehanna River Basin: Part I, effects of Raystown Lake on the low-flow frequency characteristics of the Juniata and lower Susquehanna Rivers, Pennsylvania, by J.T. Armbruster. 1977. (PB-268 981/AS)
- WRI 77-55.** Water-quality study of Tulpehocken Creek, Berks County, Pennsylvania, prior to impoundment of Blue Marsh Lake, by J.L. Barker. 1977. (AD A045 865)
- WRI/OF 77-67.** Ground-water resources of Chester County, Pennsylvania, by L.J. McGreevy and R.A. Sloto.
- WRI 78-12.** Regional analysis of the effects of land use on stream-water quality, methodology, and application in the Susquehanna River Basin, Pennsylvania and New York, by D.J. Lystrom, F.A. Rinella, D.A. Rickert, and Lisa Zimmermann. 1978. (PB-284 185)
- WRI 78-35.** Sediment discharge from highway construction near Port Carbon, Pennsylvania, by R.E. Helm. 1978. (PB-280 793)
- WRI 78-42.** Postimpoundment survey of water-quality characteristics of Raystown Lake, Huntingdon and Bedford Counties, Pennsylvania, by D.R. Williams. 1978 (1979). (AOA-061 737)
- WRI 78-53.** Bacteriological water quality of Tulpehocken Creek Basin, Berks and Lebanon Counties, Pennsylvania, by J.L. Barker. 1978 (1979). (ADA-057 485)
- WRI 79-3.** Regional stochastic generation of streamflows using an arima (1,0,1) process and disaggregation, by J.T. Armbruster. 1979. (PB-300 945/AS)
- WRI 79-19.** Selected water resources data, Clarion River and Redbank Creek Basins, northwestern Pennsylvania--Part 2, by T.F. Buckwalter, C.H. Dodge, and G.R. Schiner. 1979. (PB-80 107 915)
- WRI 79-52.** Flow routing in the Susquehanna River Basin: Part II--Low-flow characteristics of the Susquehanna River between Waverly, New York, and Sunbury, Pennsylvania, by D.L. Bingham. 1979. (PB-301 392)
- WRI 79-85.** Flow routing in the Susquehanna River Basin: Part III--Routing reservoir releases in the Tioga and Chemung Rivers system, Pennsylvania, and New York, 1977, by J.T. Armbruster. 1979. (PB-301 393)
- WRI 79-88.** Nonpoint-source discharges in Pequea Creek Basin, Pennsylvania, 1977, by J.R. Ward and D.A. Eckhardt. 1979. (PB-175 656)
- WRI 80-02.** Development of a digital model of ground-water flow in deeply weathered crystalline rock, Chester County, Pennsylvania, by L.J. McGreevy and R.A. Sloto. 1980 (1981). (PB-81 132 896)
- WRI 80-53.** Effects of strip mining the abandoned deep Anna S mine on the hydrology of Babb Creek, Tioga County, Pennsylvania, by L.A. Reed. 1980. (PB-81 121 337)
- WRI 80-68.** The effects of highway construction on sediment discharge into Blockhouse Creek and Steam Valley Run, Pennsylvania, by R.A. Hainly. 1981. (PB-81 202 202)

Water-Resources Investigations Reports--Continued

- WRI 81-1.** Preimpoundment water quality in the Tioga River Basin, Pennsylvania, and New York, by J.R. Ward. 1981. (ADA-101 909)
- WRI 81-69.** Sedimentation in the East Branch Mahoning Creek, Clearfield and Jefferson Counties, Pennsylvania, June 1979 to June 1980, by K.L. Wetzel.
- WRI/OF 81-70** Water resources of the Clarion River and Redbank Creek Basins, northwestern Pennsylvania, by T.F. Buckwalter, C. H. Dodge, G.R. Schiner, and H.E. Koester.
- WRI 81-73.** A stormwater management model for the West Branch Brandywine Creek, Chester County, Pennsylvania, by R.A. Sloto.
- WRI/OF 81-537.** Hydrology of Area 3, Eastern Coal Province, Pennsylvania, by W.J. Herb, L.C. Shaw, and D.E. Brown.
- WRI/OF 81-538.** Hydrology of Area 5, Eastern Coal Province, Pennsylvania, Maryland, and West Virginia, by W.J. Herb, L.C. Shaw, and D.E. Brown.
- WRI 82-21.** Evaluation of the streamflow data program in Pennsylvania, by H.N. Flippo, Jr.
- WRI/OF 83-223.** Hydrology of Area 1, Eastern Coal Province, Pennsylvania, by W.J. Herb, D.E. Brown, L.C. Shaw, and A.E. Becher.
- WRI/OF 82-647.** Hydrology of Area 2, Eastern Coal Province, Pennsylvania and New York, by W.J. Herb, D.E. Brown, L.C. Shaw, J.D. Stoner, and J.K. Felbinger.
- WRI 82-4020.** Effect of urbanization on the water resources of Warminster Township, Bucks County, Pennsylvania, by R.A. Sloto and D.K. Davis.
- WRIR 82-4049.** Flow-routing in the Susquehanna River Basin: Part V - Flow routing models for the West Branch Susquehanna River Basin, Pennsylvania, by S.A. Brua.
- WRIR 83-4032.** Water-quality assessment of Francis E. Walter Reservoir, Luzerne and Carbon Counties, Pennsylvania, by J.L. Barker.
- WRIR 83-4113.** Effects of specific land uses on nonpoint sources of suspended sediment, nutrients, and herbicides - Pequea Creek Basin, Pennsylvania, 1979-80, by P.L. Lietman, J.R. Ward, and T.E. Behrendt.
- WRIR 83-4164.** Water-quality and chemical loads of the Susquehanna River at Harrisburg, Pennsylvania, April 1980 to March 1981, by D.K. Fishel.
- WRIR 83-4216.** Calculating sediment discharge from a highway construction site in central Pennsylvania, by L.A. Reed, J.R. Ward, and K.L. Wetzel.
- WRIR 83-4274.** Reconnaissance of mine drainage in the coal fields of eastern Pennsylvania, by D.J. Growitz, L.A. Reed, and M.M. Beard.
- WRIR 84-4189.** Temperature of ground water at Philadelphia, Pennsylvania, 1979-1981, by G.N. Paulachok.
- WRIR 84-4223.** Trap efficiency of a sediment-control pond below a block-cut coal mine in Fayette County, Pennsylvania, by L.A. Reed, L. DiLissio, and D.E. Stump, Jr.
- WRIR 84-4327.** Evaluation of the ground-water resources of parts of Lancaster and Berks Counties, Pennsylvania, by J.M. Gerhart and G.J. Lazorchick.
- WRIR 84-4335.** Estimating iron and aluminum content of acid mine discharge from a northcentral Pennsylvania coal field by use of acidity titration curves, by A.N. Ott.
- WRIR 84-4362.** Effects of surface mining on streamflow, suspended sediment, and water quality in the Stony Fork drainage basin, Fayette County, Pennsylvania, by D.E. Stump, Jr. and T.M. Mastrilli.
- WRIR 85-4008.** Statistical analyses of flood frequency, low-flow frequency, and flow duration of streams in the Philadelphia area, Pennsylvania, by A. Voytik.
- WRIR 85-4023.** Results of a preimpoundment water-quality study of Swatara Creek, Pennsylvania, by D.K. Fishel and J.E. Richardson.
- WRIR 85-4025.** Areal and temporal variability of selected water quality characteristics in two hydrologic-benchmark basins in the northeastern United States, by R.A. Hainly and J.R. Ritter.

Water-Resources Investigations Reports--Continued

- WRIR 85-4038.** Quality of water in mines in the western middle coal field, anthracite region, eastcentral Pennsylvania, by L.A. Reed, M.M. Beard, and D.J. Growitz.
- WRIR 85-4074.** Temporal changes in sulfate, chloride, and sodium concentrations in four eastern Pennsylvania streams, by J.L. Barker.
- WRIR 85-4077.** Cost effectiveness of the stream-gaging program in Pennsylvania, by H.N. Flippo, Jr. and T.E. Behrendt.
- WRIR 85-4093.** Effects of surface coal mining on suspended-sediment discharge in a small mountain watershed, Fayette County, Pennsylvania, by T.M. Mastrilli and D.E. Stump, Jr.
- WRIR 85-4177.** Determination of benthic-invertebrate indices and water-quality trends of selected streams in Chester County, Pennsylvania, 1969-80, by C.R. Moore.
- WRIR 85-4185.** Simulation of ground-water flow in aquifers along the Susquehanna River in Columbia County, Pennsylvania, by J.H. Williams and G.E. Senko.
- WRIR 85-4202.** Occurrence of nitrate and herbicides in ground water in the upper Conestoga River Basin, Pennsylvania, by D.K. Fishel and P.L. Lietman.
- WRIR 85-4213.** Sediment loads, discharges, and yields in the East Branch Mahoning Creek Basin, Clearfield and Jefferson Counties, Pennsylvania, by C.A. Loper and K.L. Wetzel.
- WRIR 85-4224.** Ground-water levels in the lower Paleozoic carbonate rocks of western Chester Valley, Chester County, Pennsylvania, November 1984, by C.R. Wood.
- WRIR 85-4250.** Surface-water quality in Pequea Creek Basin, Pennsylvania, by J.R. Ward.
- WRIR 85-4283.** An appraisal of areal and temporal variability from 1962 to 1982 in hydrologic accounting unit 020502, by R.A. Hainly, J.F. Truhlar, and K.L. Wetzel.
- WRIR 85-4331.** Low-flow routing in the Lehigh and Delaware Rivers, Pennsylvania, by H.N. Flippo, Jr.
- WRIR 85-4341.** Ground-water levels in the Cockeysville marble of southern Chester County, Pennsylvania, 1983-84, by D.W. Speight.
- WRIR 86-4054.** Effects of flood controls proposed for West Branch Brandywine Creek, Chester County, Pennsylvania, by R.A. Sloto.
- WRIR 86-4055.** Simulation of ground-water flow in the lower sand unit of the Potomac-Raritan-Magothy aquifer system, Philadelphia, Pennsylvania, by R.A. Sloto.
- WRIR 86-4164.** Hydrogeology and ground-water quality at a land reclamation site, Neshaminy State Park, Pennsylvania, by R.S. Blickwedel.
- WRIR 86-4195.** Technique for estimating depths of 100-year floods in Pennsylvania, by H.N. Flippo, Jr.
- WRIR 86-4352.** Ground-water levels in the lower Paleozoic and Precambrian crystalline rocks, southeastern Chester County, Pennsylvania, July and August 1986, by J.A. Garges.
- WRIR 87-4065.** Water resources of Oley Township, Berks County, Pennsylvania, by G.N. Paulachok and C.R. Wood.
- WRIR 87-4098.** Effect of urbanization on the water resources of eastern Chester County, Pennsylvania, by R.A. Sloto.
- WRIR 87-4136.** A feasibility study to estimate minimum surface-casing depths of oil and gas wells to prevent ground-water contamination in four areas of western Pennsylvania, by T.F. Buckwalter and P.J. Squillace.
- WRIR 87-4194.** Estimation of flood-frequency characteristics and the effects of urbanization for streams in the Philadelphia, Pennsylvania area, by J.R. Bailey, W.O. Thomas, K.L. Wetzel, and T.J. Ross.
- WRIR 87-4196.** Effects of urbanization on storm runoff volume and peak discharge of Valley Creek, eastern Chester County, Pennsylvania, by R.A. Sloto.
- WRIR 87-4218.** Geohydrology of the Furnace Creek Basin and vicinity, Berks, Lancaster, and Lebanon Counties, Pennsylvania, by L.D. Cecil.

Water-Resources Investigations Reports--Continued

- WRIR 88-4005.** Suspended-sediment yields from an unmined area and from mined areas before and after reclamation in Pennsylvania, June 1978-September 1983, by L.A. Reed and R.A. Hainly.
- WRIR 88-4052.** Ground-water levels in the lower Paleozoic and Precambrian crystalline rocks of East Bradford and West Bradford Townships, Chester County, Pennsylvania, July and August 1987, by J.A. Garges.
- WRIR 88-4087.** Preimpoundment hydrologic conditions in the Swatara Creek (1981-84) and estimated postimpoundment water quality in and downstream from the planned Swatara State Park Reservoir, Lebanon and Schuylkill Counties, Pennsylvania, by D.K. Fishel.
- WRIR 88-4095.** Withdrawals and consumptive use of water in Pennsylvania, 1984, by C.A. Loper, S.D. Lent, and K.L. Wetzel.
- WRIR 88-4211.** Relation of ground-water quality to land use in the Philadelphia, Pennsylvania-Camden, New Jersey area, by R.S. Blickwedel and C.R. Wood.
- WRIR 89-4014.** Water quality of the West Branch Lackawaxen River and limnology of Prompton Lake, Wayne County, Pennsylvania, October 1986 through September 1987, by J.L. Barker.
- WRIR 89-4043.** Altitude and configuration of the potentiometric surface in the Triassic sandstones and shales, northeastern Chester County, Pennsylvania, September 1987 through January 1988, by L.A. Senior and J.A. Garges.
- WRIR 89-4113.** Effects of acidic precipitation on the water quality of streams in the Laurel Hill area, Somerset County, Pennsylvania, 1983-86, by J.L. Barker and E.C. Witt, III.
- WRIR 89-4154.** Geohydrology and water quality in the vicinity of the Gettysburg National Military Park and Eisenhower National Historic Site, Pennsylvania, by A.E. Becher.
- WRIR 89-4169.** Geohydrology and simulation of ground-water flow in the carbonate rocks of the Valley Creek Basin, eastern Chester County, Pennsylvania, by R.A. Sloto.
- WRIR 90-4011.** Water quality of the upper West Branch Susquehanna River and tributary streams between Curwensville and Renono, Pennsylvania, by R.A. Hainly and J.L. Barker.
- WRIR 90-4052.** Tributary-stream infiltration in Marsh Creek Valley, north-central Pennsylvania, by J.H. Williams.
- WRIR 90-4076.** Hydrogeology and ground-water flow in the carbonate rocks of the Little Lehigh Creek Basin, Lehigh County, Pennsylvania, by R.A. Sloto, L.D. Cecil, and L.A. Senior.
- WRIR 90-4114.** Altitude and configuration of the potentiometric surface in the Triassic sandstones and shales, northern Chester County, Pennsylvania, October 1989 through March 1990, by B.C. McManus.
- WRIR 90-4131.** Evaluation of agricultural best-management practices in the Conestoga River Headwaters, Pennsylvania: Description and water quality of the Little Conestoga Creek Headwaters prior to the implementation of nutrient management, by D.K. Fishel, M.J. Brown, K.M. Kostelnik, and M.A. Howse.
- WRIR 90-4160.** Base-flow frequency characteristics of selected Pennsylvania streams, by K.E. White and R.A. Sloto.
- WRIR 91-4004.** Altitude and configuration of the water-level surface in the lower Paleozoic and Precambrian crystalline rocks of the Red Clay Creek Basin, Chester County, Pennsylvania, and New Castle County, Delaware, June through October 1989 and March 1990, by K.L. Vogel, W.L. Miller, and B.C. McManus.
- WRIR 91-4006.** Hydrology and the hypothetical effects of reducing nutrient applications on water quality in the Bald Eagle Creek headwaters, southeastern Pennsylvania prior to implementation of agricultural best-management practices, by D.K. Fishel, M.J. Langland, and M.V. Truhlar.
- WRIR 91-4182.** Altitude and configuration of the potentiometric surface in the crystalline and metasedimentary rocks, northeastern Chester County, Pennsylvania, May through October 1990, by B.C. McManus.
- WRIR 92-4088.** Radium and radon in ground water in the Chickies Quartzite, southeastern Pennsylvania, by L.A. Senior and K.L. Vogel.

Water-Resources Investigations Reports--Continued

- WRIR 92-4093.** Simulation of streamflow and sediment transport in two surface-coal-mined basins in Fayette County, Pennsylvania, by J.I. Sams, III and E.C. Witt, III.
- WRIR 92-4183.** Altitude and configuration of the potentiometric surface in Springfield Township, Bucks County, Pennsylvania, April 1991 through October 1991, by C.L. Schreffler.
- WRIR 92-4194.** Altitude and configuration of the potentiometric surfaces of the upper and lower aquifer systems in Bridgeton, Nockamixon, and Tinicum Townships, Bucks County, Pennsylvania, April 1991 through April 1992, by B.C. McManus and C.J. Rowland.
- WRIR 93-4055.** Geohydrology and simulation of ground-water flow in the Red Clay Creek Basin, Chester County, Pennsylvania, and New Castle County, Delaware, by K.L. Vogel and A.G. Reif.
- WRIR 93-4069.** Hydrology and the effects of selected agricultural best-management practices in the Bald Eagle Creek watershed, York County, Pennsylvania, prior to and during nutrient management, by M.J. Langland and D.K. Fishel.
- WRIR 93-4109.** Geohydrology of, and nitrogen and chloride in, the glacial aquifer, Milford-Matamoras area, Pike County, Pennsylvania, by L.A. Senior.
- WRIR 93-4119.** Evaluation of agricultural best-management practices in the Conestoga River headwaters, Pennsylvania: characterization of surface runoff and ground-water quantity and quality in a small carbonate basin near Churchtown, Pennsylvania, prior to terracing and implementation of nutrient management, by P.L. Lietman, D.W. Hall, M.J. Langland, D.C. Chichester, and J.R. Ward.
- WRIR 93-4160.** Calibration of a streamflow-routing model for the Delaware River and its principal tributaries in New York, New Jersey, and Pennsylvania, by H.N. Flippo and T.M. Madden, Jr.
- WRIR 93-4172.** Hydrogeology, herbicides and nutrients in ground water and springs, and relation of water quality to land use and agricultural practices near Carlisle, Pennsylvania, by D.J. Hippe, E.C. Witt, III, and R.M. Giovanitti.
- WRIR 93-4173.** Evaluation of agricultural best-management practices in the Conestoga River headwaters, Pennsylvania: Hydrology of a small carbonate-rock site near Ephrata, Pennsylvania, prior to implementation of nutrient management, by E.H. Koerkle, D.W. Hall, D.W. Risser, P.L. Lietman, and D.C. Chichester.
- WRIR 93-4203.** Determination of traveltime in the Delaware River, Hancock, New York, to the Delaware Water Gap by use of a conservative dye tracer, by K.E. White and T.W. Kratzer.
- WRIR 94-4056.** Effects of surface mining on the hydrology and biology in the Stony Fork Basin, Fayette County, Pennsylvania, by D.R. Williams, J.R. Ritter, T.M. Mastrilli, and Thomas Proch.
- WRIR 94-4059.** Water and sediment budgets for the storm-water-drainage channel at the Navy Ships Parts Control Center near Mechanicsburg, Pennsylvania, water year 1993, by L.A. Reed, R.R. Durlin, and J.K. Bender.
- WRIR 94-4060.** Land use, organochlorine compound concentrations, and trends in benthic-invertebrate communities in selected stream basins in Chester County, Pennsylvania, by M.A. Hardy, K.L. Wetzel, and C.R. Moore.
- WRIR 94-4090.** Hydrogeology of, and simulation of ground-water flow in, a mantled carbonate-rock system, Cumberland Valley, Pennsylvania, by D.C. Chichester.
- WRIR 94-4109.** Hydrogeology and ground-water quality of northern Bucks County, Pennsylvania, by R.A. Sloto and C.L. Schreffler.
- WRIR 94-4137.** Hydrogeology and water quality of the West Valley Creek Basin, Chester County, Pennsylvania, by L.A. Senior, R.A. Sloto, and A.G. Reif.
- WRIR 94-4206.** Evaluation of agricultural best-management practices in the Conestoga River headwaters, Pennsylvania: Effects of pipe-outlet terracing on surface-runoff and ground-water quantity and quality in a small carbonate-rock basin near Churchtown, Pennsylvania, 1983-89, by P.L. Lietman, L.C. Gustafson-Minnich, and D.W. Hall.

Water-Resources Investigations Reports--Continued

- WRIR 94-4245.** Environmental setting of the Lower Susquehanna River Basin, Pennsylvania and Maryland, for water-quality studies in the National Water-Quality Assessment Program, by D.W. Risser and S.F. Siwiec.
- WRIR 95-4033.** A strategy for delineating the area of ground-water contribution to wells completed in fractured bedrock aquifers in Pennsylvania, by D.W. Risser and G.J. Barton.
- WRIR 95-4046.** Evaluation of agricultural best-management practices in the Conestoga River headwaters, Pennsylvania: Effects of nutrient management on water quality in the Little Conestoga Creek headwaters 1983-89, by E.H. Koerkle, D.K. Fishel, and M.J. Brown.
- WRIR 95-4122.** Deposition and simulation of sediment transport in the Lower Susquehanna River reservoir system, by R.A. Hainly, L.A. Reed, H.N. Flippo, Jr., and G.J. Barton.
- WRIR 95-4143.** Evaluation of agricultural best-management practices in the Conestoga River Headwaters, Pennsylvania: Effects of nutrient management on quality of surface runoff and ground water at a small carbonate-rock site near Ephrata, Pennsylvania, 1984-90, by D.W. Hall, P.L. Lietman, and E.H. Koerkle.
- WRIR 95-4164.** Water resources of Indiana County, Pennsylvania, by D.R. Williams and T.A. McElroy.
- WRIR 95-4165.** Geohydrology and water quality of the unconsolidated deposits in Erie County, Pennsylvania, by T.F. Buckwalter, C.L. Schreffler, and R.E. Gleichsner.
- WRIR 95-4195.** Effects of agricultural best-management practices on the Brush Run headwaters, Adams County, Pennsylvania, prior to and during nutrient management, by M.J. Langland and D.K. Fishel.
- WRIR 95-4220.** Geohydrology and vertical distribution of volatile organic compounds in ground water, Fischer and Porter Company Superfund site, Warminster, Bucks County, Pennsylvania, by R.A. Sloto, Paola Macchiaroli, and R.W. Conger.
- WRIR 95-4233.** A synthesis of nutrient and sediment data from watersheds within the Chesapeake Bay drainage basin, by M.J. Langland, P.L. Lietman, and S. Hoffman.
- WRIR 95-4243.** Water quality of large discharges from mines in the anthracite region of eastern Pennsylvania, by C.R. Wood.
- WRIR 96-4040.** HYSEP: a computer program for stream-flow hydrograph separation and analysis, by R.A. Sloto and M.Y. Crouse.
- WRIR 96-4047.** Geohydrology of the Stockton Formation and cross-contamination through open boreholes, Hatboro Borough and Warminster Township, Pennsylvania, by R.A. Sloto, Paola Macchiaroli, and M.T. Towle.
- WRIR 96-4048.** Sediment deposition in Lake Clarke, Lake Aldred, and Conowingo Reservoir, Pennsylvania and Maryland, 1910-93, by L.A. Reed and S.A. Hoffman.
- WRIR 96-4062.** Hydrogeologic setting and evaluation of pesticide fate and transport in the unsaturated zone of a regolith-mantled, carbonate-rock terrain near Newville, Pennsylvania, by D.J. Hippe and D.W. Hall.
- WRIR 96-4073.** Nutrient and triazine-herbicide concentrations in streams of the Chickies Creek Basin, south-central Pennsylvania, during low-flow conditions, by M.J. Langland and L.A. Reed.
- WRIR 96-4090.** Hydrogeologic framework of the diabase aquifer at the Boarhead Farms Superfund site, Bridgeton Township, Bucks County, Pennsylvania, by C.L. Schreffler.
- WRIR 96-4099.** Loads and yields of nutrients and suspended sediment in the Susquehanna River Basin, 1985-89, by L.A. Reed, C.S. Takita, and Gary Barton.
- WRIR 96-4120.** Hydrogeology and ground-water quality of Valley Forge National Historical Park, Montgomery County, Pennsylvania, by R.A. Sloto and B.C. McManus.
- WRIR 96-4127.** Water-use analysis program for the Neshaminy Creek Basin, Bucks and Montgomery Counties, Pennsylvania, by C.L. Schreffler.

Water-Resources Investigations Reports--Continued

- WRIR 96-4133.** Effects of coal-mine discharges on the quality of the Stonycreek River and its tributaries, Somerset and Cambria Counties, Pennsylvania, by D.R. Williams, J.I. Sams, III, and M.E. Mulkerrin.
- WRIR 96-4141.** Occurrence and concentrations of volatile organic compounds in shallow ground water in the Lower Susquehanna River Basin, Pennsylvania and Maryland, by M.H. Daly and B.D. Lindsey.
- WRIR 96-4156.** Radon in ground water of the Lower Susquehanna and Potomac River Basins, by B.D. Lindsey and S.W. Ator.
- WRIR 96-4168.** Factors affecting phosphorus transport at a conventionally-farmed site in Lancaster County, Pennsylvania, 1992-95, by D.G. Galeone.
- WRIR 96-4212.** Bacteriological quality of ground water used for household supply, Lower Susquehanna River Basin, Pennsylvania and Maryland, by T.M. Bickford, B.D. Lindsey, and M.R. Beaver.
- WRIR 96-4267.** A three-dimensional method of characteristics solute-transport model (MOC3D), by L.F. Konikow, D.J. Goode, and G.Z. Hornberger.
- WRIR 96-4286.** Hydrogeologic investigation of the Malvern TCE Superfund Site, Chester County, Pennsylvania, by R.A. Sloto.
- WRIR 96-4288.** Ground-water quality and its relation to hydrogeology, land use, and surface-water quality in the Red Clay Creek Basin, Piedmont Physiographic Province, Pennsylvania and Delaware, by L.A. Senior.
- WRIR 96-4319.** Evaluation of selected wells in Pennsylvania's observation-well program as of 1993, by R.W. Conger.
- WRIR 97-4048.** Surface-water quality changes after 5 years of nutrient management in the Little Conestoga Creek Headwaters, Pennsylvania, 1989-91, by E.H. Koerkle and L.C. Gustafson-Minnich, with a section on "Benthic Macroinvertebrates" by M.D. Bilger.
- WRIR 97-4095.** Results of borehole geophysical logging and aquifer-isolation tests conducted in the John Wagner and Sons, Inc. former production well, Ivyland, Pennsylvania, by R.A. Sloto.
- WRIR 97-4104.** Identification of potential water-bearing zones by the use of borehole geophysics in the vicinity of Keystone Sanitation Superfund Site, Adams County, Pennsylvania and Carroll County, Maryland, by R.W. Conger.
- WRIR 97-4113.** Drought-trigger ground-water levels and analysis of historical water-level trends in Chester County, Pennsylvania, by C.L. Schreffler.
- WRIR 97-4120.** Metals, pesticides, and semivolatile organic compounds in sediment in Valley Forge National Historical Park, Montgomery County, Pennsylvania, by A.G. Reif.
- WRIR 97-4124.** Herbicide concentrations in and loads transported by the Conestoga River and Pequea Creek, Lancaster County, Pennsylvania, 1992-95, by L.A. Reed, E.H. Koerkle, and C.S. Takita.
- WRIR 97-4146.** Nitrate in ground water and stream base flow in the Lower Susquehanna River Basin, Pennsylvania and Maryland, by B.D. Lindsey, C.A. Loper, and R.A. Hainly.

U.S. Geological Survey Open-File Reports and Maps

Open-File Reports, which may be in manuscript form, generally are not reproduced and distributed in quantity. These reports are available for inspection in the Lemoyne, Pennsylvania, and the Reston, Virginia, offices of the U.S. Geological Survey. Most numbered open-file reports may be purchased from the Books and Open-File Reports Section (BOFRS). Information on the availability of the unnumbered reports may be obtained from the District Chief, U.S. Geological Survey, WRD, Lemoyne, Pennsylvania.

- OFR 76-247.** Time-of-travel studies Susquehanna River, Binghamton, New York, to Clarks Ferry, Pennsylvania, by C.D. Kauffman, Jr., J.T. Armbruster, and Andrew Voytik.
- OFR 76-350.** Map showing selected extreme streamflow statistics and drainage areas, Greater Pittsburgh region, Pennsylvania, by M.B. Coll, Jr., and R.M. Beall.
- OFR 76-352.** Guide to the availability of hydrologic data, greater Pittsburgh region, Pennsylvania, by R.M. Beall.
- OFR 76-445.** Selected hydrologic data, Clarion River and Redbank Creek Basins, northwestern Pennsylvania--An interim report, by H.E. Koester and Joseph Lescinsky.
- OFR 76-793.** Ground-water conditions in the Kingston area, Luzerne County, Pennsylvania, and their effect on basement flooding, by D.J. Growitz.
- OFR 77-462.** Limnological studies of the major streams in Chester County, Pennsylvania, by B.W. Lium.
- OFR 77-479.** Water loss from Jordan Creek near Allentown, Pennsylvania--1973 to 1976, by R.E. Steacy.
- OFR 78-819.** Water-quality investigation of Francis Slocum Lake, Luzerne County, Pennsylvania, by J.L. Barker.
- OFR 78-963.** Floods of July 19-20, 1977, in the Johnstown area, western Pennsylvania, by S.A. Brua.
- OFR 80-566.** Work plan for the Schuylkill River Basin, Pennsylvania: Assessment of river quality as related to the distribution and transport of trace metals and organic substances, by G.L. Pederson, T.H. Yorke, and J.K. Stamer.
- OFR 80-1119.** Ground-water quality and data on wells and springs in Pennsylvania, Volume I--Ohio and St. Lawrence River Basins, by H.E. Koester and D.R. Miller.
- OFR 81-60.** Sample mine-site permit application (hydrologic assessment), by W.J. Herb, D.M. Brown, L.D. Carswell, and P.L. Lietman.
- OFR 81-329.** Ground-water quality and data on wells and springs in Pennsylvania, Volume II, Susquehanna and Potomac River Basins, by H.E. Koester and D.R. Miller.
- OFR 81-330.** Ground-water quality and data on wells and springs in Pennsylvania, Volume III, Delaware River Basin, by H.E. Koester and D.R. Miller.
- OFR 81-1025.** An evaluation of the effects of acid rain on low conductivity headwater streams in Pennsylvania, by J.R. Ritter and A.E. Brown.
- OFR 81-1115.** An evaluation of water-quality monitoring in the Brandywine Creek Basin, Pennsylvania, 1973-78, by J.J. Murphy, J.R. Ritter, A.E. Brown, and J.P. Chiarella.
- OFR 82-861.** Time-of-travel and dispersion studies, Lehigh River, Francis E. Walter Lake to Easton, Pennsylvania, by C.D. Kauffman, Jr.
- OFR 83-149.** Hydrologic data for aquifers in Philadelphia, Pennsylvania, by G.N. Paulachok, C.R. Wood, and L.J. Norton.
- OFR 84-235.** Water-table contour map of the carbonate rocks of eastern Chester County, Pennsylvania, October 1983, by R.A. Sloto.
- OFR 84-706.** Compilation of ground-water-quality data in Pennsylvania, by J.L. Barker.
- OFR 84-715.** Ground-water levels in the carbonate rocks of central Chester County, Pennsylvania, May 18 to June 15, 1984, by C.R. Wood.
- OFR 85-686.** Physical, chemical, and biological data for selected streams in Chester County, Pennsylvania, 1969-80, by C.R. Moore.
- OFR 86-140.** Water quality data for precipitation and storm runoff in Pennypack Creek Basin, Philadelphia, Pennsylvania, by D.W. Speight.

U.S. Geological Survey Open-File Reports and Maps--Continued

- OFR 86-486.** Flood of November 1985 in West Virginia, Pennsylvania, Maryland, and Virginia, by J.B. Lescinsky.
- OFR 87-217.** Selected ground-water data, Chester County, Pennsylvania, by R.A. Sloto.
- OFR 87-232.** Map showing radium concentrations in ground water of the Chickies Formation, southeastern Pennsylvania, 1986-87, by L.D. Cecil.
- OFR 87-475.** Water resources activities of the U.S. Geological Survey in Pennsylvania, 1986-87, by R.E. Helm.
- OFR 88-96.** Evaluation of agricultural best-management practices in the Conestoga River headwaters, Pennsylvania, by D.C. Chichester.
- OFR 88-149.** Water fact sheet, U.S. Geological Survey, Department of the Interior. U.S. Geological Survey ground-water studies in Pennsylvania, by C.R. Wood. 1988.
- OFR 88-470.** Hydrologic data for Indian Creek Basin, Fayette and Westmoreland Counties, Pennsylvania, 1985-87, by J.I. Sams, III and E.C. Witt, III.
- OFR 89-247.** Streamflow and water-quality data for Little Clearfield Creek Basin, Clearfield County, Pennsylvania, December 1987 - November 1988, by K.M. Kostelnik and R.R. Durlin.
- OFR 89-273.** Water-resources activities of the U.S. Geological Survey in Pennsylvania, 1988-89, by R.E. Helm.
- OFR 89-404.** Streamflow and water-quality data for Meadow Run Basin, Fayette County, Pennsylvania, December 1987 - November 1988, by K.M. Kostelnik and E.C. Witt, III.
- OFR 89-577.** Streamflow and water-quality data for Little Scrubgrass Creek Basin, Venango and Butler Counties, Pennsylvania, December 1987 - November 1988, by K.M. Kostelnik and R.R. Durlin.
- OFR 89-584.** Water-resources data for North Fork Bens Creek, Somerset County, Pennsylvania, August 1983 through September 1988, by E.C. Witt, III.
- OFR 90-109.** Ground-water resources of cambrian and ordovician carbonate rocks in the Valley and Ridge physiographic province of Pennsylvania, by A.E. Becher.
- OFR 90-164.** Large springs in the valley and ridge physiographic province of Pennsylvania: A contribution to the Appalachian Valley-Piedmont Regional Aquifer--system analysis study, by D.A. Saad and D.J. Hippe.
- OFR 90-384.** Water-resources data for Indiana County, Pennsylvania, by D.R. Williams and T.A. McElroy.
- OFR 91-168.** Water fact sheet, U.S. Geological Survey, Department of the Interior. National Water-Quality Assessment Program--the lower Susquehanna River Basin, by K.J. Breen, R.A. Hainly, and S.A. Hoffman. 1991.
- OFR 91-214.** Water-resources investigations in Pennsylvania: programs and activities of the U.S. Geological Survey, 1990-91, by L.O. McLanahan.
- OFR 92-165.** Evaluation of nutrient quality-assurance data for Alexanders and Mount Rock Spring Basins, Cumberland County, Pennsylvania, by E.C. Witt, III, D.J. Hippe, and R.M. Giovannitti.
- OFR 92-494.** Guidelines for studies of contaminants in biological tissues for the National Water-Quality Assessment Program, by J.K. Crawford and S.N. Luoma.
- OFR 92-635.** Evaluation of methods for delineating areas that contribute water to wells completed in valley-fill aquifers in Pennsylvania, by D.W. Risser and T.M. Madden, Jr.
- OFR 93-27.** Altitude and configuration of the potentiometric surface in Plumstead Township, Bucks County, Pennsylvania, June 1991 through November 1991, by C.L. Schreffler.
- OFR 93-28.** Altitude and configuration of the potentiometric surface in New Hope Borough and Solebury Township, Bucks County, Pennsylvania, October 1991 through April 1992, by C.L. Schreffler.

U.S. Geological Survey Open-File Reports and Maps--Continued

- OFR 93-115.** Water-quality data for two surface coal mines reclaimed with alkaline waste or urban sewage sludge, Clarion County, Pennsylvania, May 1983 through November 1989, by D.L. Dugas, C.A. Cravotta, III, and D.A. Saad.
- OFR 93-152.** Water-resources investigations in Pennsylvania: programs and activities of the U.S. Geological Survey, 1993, compiled by L.O. McLanahan.
- OFR 93-417.** Altitude and configuration of the potentiometric surface, in Buckingham and Wrightstown Townships, Bucks County, Pennsylvania, June 1992 through January 1993, by B.C. McManus, C.L. Schreffler, and C.J. Rowland-Lesitsky.
- OFR 93-659.** Altitude and configuration of the potentiometric surface, May and June 1993, and change in water level 1983-93, in the carbonate rocks in part of East Whiteland and Charlestown Townships, Chester County, Pennsylvania, by B.C. McManus and R.A. Sloto.
- OFR 94-87.** Ground-water resources data for Warren County, Pennsylvania, by M.E. Moore and T.F. Buckwalter.
- OFR 94-381.** Hydrologic data for northern Bucks County, Pennsylvania, by C.L. Schreffler, B.C. McManus, and C.J. Rowland-Lesitsky.
- OFR 94-510.** Use of stable isotopes of carbon, nitrogen, and sulfur to identify sources of nitrogen in surface waters in the Lower Susquehanna River Basin, Pennsylvania, by C.A. Cravotta, III. [THIS REPORT ALSO WAS APPROVED FOR PUBLICATION AS A USGS WATER-SUPPLY PAPER.]
- OFR 95-113.** Geographic information system data sets of hydrogeologic conditions in Pequea and Mill Creek watersheds, Pennsylvania: part I—basic data, by D.L. Dugas, S.J. Char, and G.E. Baumbach.
- OFR 95-119.** Altitude and configuration of the potentiometric surface in part of Lower Providence Township, Montgomery County, Pennsylvania, May and June 1994, by B.C. McManus.
- OFR 95-193.** Geographic information system data sets of hydrogeologic conditions in Pequea and Mill Creek watersheds, Pennsylvania: part II—hydrogeologic interpretations, by D.J. Low, D.C. Chichester, and S.J. Char.
- OFR 95-377.** Assessment of severity and distribution of corrosive ground water in Pennsylvania, by M.J. Langland and D.L. Dugas.
- OFR 95-717.** Altitude and configuration of the potentiometric surface, Casey Village, Warminster and Upper Southampton Townships, Bucks County, Pennsylvania, August 3, 1995, by R.A. Sloto and K.E. Grazul.
- OFR 95-747.** Altitude and configuration of the potentiometric surface in the upper Triassic sedimentary rocks of the Lockatong Formation at and near the North Penn Area 12 Superfund Site, Worcester Township, Montgomery County, Pennsylvania, July 20-27, 1995, by K.E. Grazul.
- OFR 96-336.** Altitude and configuration of the potentiometric surface in the crystalline and metasedimentary rocks in Birmingham, Newlin, Pennsbury, and Pocopson Townships and parts of East Marlborough and Kennett Townships, Chester County, Pennsylvania, June 1994 through November 1995, by C.R. Wood, W.C. Wettstein, S.S. Aichele, J. Joyce, and F.M. Schneider.
- OFR 96-338.** Altitude and configuration of the potentiometric surface in the crystalline and metasedimentary rocks in East Brandywine, Upper Uwchlan, and Uwchlan Townships and parts of Caln, East Caln, and West Whiteland Townships, Chester County, Pennsylvania, April 1993 through June 1994, by S.S. Aichele and C.R. Wood.
- OFR 96-339.** Altitude and configuration of the potentiometric surface in the crystalline and metasedimentary rocks in Velley and West Brandywine Townships, Chester County, Pennsylvania, May 1992 through August 1993, by J.E. McGovern, A. Bossert, and W.C. Wettstein.

U.S. Geological Survey Open-File Reports and Maps--Continued

OFR 96-340. Altitude and configuration of the potentiometric surface in the crystalline and metasedimentary rocks in Sadsbury, West Caln, and West Sadsbury Townships, Chester County, Pennsylvania, April 1993 through August 1994, by W.C. Wettstein and C.R. Wood.

OFR 96-341. Altitude and configuration of the potentiometric surface, Casey Village and U.S. Naval Air Warfare Center, Warminster and Upper Southampton Townships, Bucks County, Pennsylvania, February 15, 1996, by R.A. Sloto.

OFR 96-359. Maps of difference between ground-water contributions to base flow for the various recurrence intervals and ground-water withdrawals in Neshaminy Creek Basin, Pennsylvania, by C.L. Schreffler and P.H. Bird.

OFR 96-367. Altitude and configuration of the potentiometric surface, December 6, 1994, in the carbonate rocks in part of East Whiteland and Charlestown Townships, Chester County, Pennsylvania, by B.C. McManus and R.A. Sloto.

OFR 96-497. Scour at bridges—What's it all about?: Stream stability and scour assessment at bridges in Pennsylvania, by M.V. Truhlar. [pamphlet]

OFR 97-246. National Water-Quality Assessment Program:: Allegheny-Monongahela River Basin, by S.M. McAuley, J.B. Brown, and J.I. Sams.

OFR 97-554. Altitude and configuration of the Potentiometric surface in Warwick Township, Bucks County, Pennsylvania, September 1994 through May 1995, by C.J. Rowland.

OFR 97-583. Water-quality assessment of the Lower Susquehanna River Basin, Pennsylvania and Maryland: Design and implementation of water-quality studies, 1992-95, by S.F. Siwec, R.A. Hainly, B.D. Lindsey, M.D. Bilger, and R.A. Brightbill.

OFR 97-631. Evaluation of geophysical logs, phase 1, at Willow Grove Naval Air Station, Montgomery County, Pennsylvania, by R.W. Conger.

Unnumbered Open-File Reports

- Alter, A.T.**, 1966, Extent and frequency of inundation of the Schuylkill River flood plain from Conshohocken to Philadelphia, Pennsylvania.
- Barker, J.L.**, 1972, Effects of acid mine drainage on fish and macroinvertebrates of Babb Creek, Tioga County, Pennsylvania.
- _____, 1972, Effects of acid mine drainage on fish and macroinvertebrates of Loyalsock Creek near Lopez, Sullivan County, Pennsylvania.
- _____, 1972, Effects of acid mine drainage on fish and macroinvertebrates of the Tioga River, Pennsylvania and New York.
- Busch, W.F.**, 1969, Extent and frequency of inundation on the Perkiomen Creek flood plain from Green Lane Reservoir to the Schuylkill River (near Oaks, Pennsylvania).
- Busch, W.F., and Shaw, L.C.**, 1960, Floods in Pennsylvania --Frequency and magnitude.
- _____, 1971, Extent and frequency of floods on Schuylkill River (near Norristown, Pennsylvania).
- _____, 1973, Extent and frequency of floods on the Schuylkill River near Phoenixville and Pottstown, Pennsylvania.
- Farlekas, G.M.**, 1965, Extent and frequency of floods in vicinity of Easton, Pennsylvania, to Phillipsburg, New Jersey.
- Flippo, H.N., Jr.**, 1971, Acidity control in Bald Eagle Creek and West Branch of the Susquehanna River, Clinton County, Pennsylvania.
- _____, 1971, Chemical and biological conditions in Bald Eagle Creek and prognosis of trophic characteristics of Foster Joseph Sayers Reservoir, Centre County, Pennsylvania.
- Lium, B.W.**, 1976, Limnological data for the major streams in Chester County, Pennsylvania.
- McCarren, E.F., Wark, J.W., and George, J.R.**, 1964, Water quality of the Swatara Creek Basin, Pennsylvania.
- McGreevy, L.J.**, 1974, Seepage study of streams crossing Chester Valley, Chester County, Pennsylvania.
- Newport, T.G., Koester, H.E., and Bergin, M.J.**, 1971, Geology, hydrology and geochemistry of the Black Creek watershed near Mocanaqua, Luzerne County, Pennsylvania.
- Ott, A.N., and Commings, A.B.**, 1972, An inventory of suspended sediment stations and type of data analysis.
- Page, L.V., and Shaw, L.C.**, 1973, Flood of September 1971 in southeastern Pennsylvania.
- Reed, L.A.**, 1971, Effects of roadway and pond construction on sediment yield near Harrisburg, Pennsylvania.
- Seaber, P.R.**, 1968, An appraisal of the ground-water resources of the upper Susquehanna River Basin.
- Seaber, P.R., and Hollyday, E.F.**, 1965, An appraisal of the ground-water resources of the lower Susquehanna River Basin.
- _____, 1966, An appraisal of the Juniata River Basin, Susquehanna River Basin.
- Wood, C.R.**, 1974, Evaluation of arsenic concentrations in the Tulpehocken Creek Basin, Pennsylvania.

Publications of Pennsylvania State Agencies
Prepared in Cooperation with the U.S. Geological Survey

- Adamson, J.H., Jr., Graham, J.B., and Klein, N.H.,** 1949, Ground-water resources of the valley-fill deposits of Allegheny County, Pennsylvania: Pennsylvania Geological Survey, 4th Ser., Water Resource Report 8.
- Balmer, W.T., and Davis, D.K.,** 1996, Groundwater resources of Delaware County, Pennsylvania: Pennsylvania Geological Survey, 4th Ser., Water Resources Report 66.
- Barker, J.L.,** 1978, Characteristics of Pennsylvania recreational lakes: Pennsylvania Department of Environmental Resources, Water Resources Bull. No. 14.
- Beamer, N.H.,** 1953, Chemical character of surface water in Pennsylvania, 1949-51: Pennsylvania Department of Commerce State Planning Board Pub. 26.
- Becher, A.E.,** 1970, Ground water in Pennsylvania: Pennsylvania Geological Survey, 4th Ser., ES-3.
- Becher, A.E., and Root, S.I.,** 1981, Ground water and geology of the Cumberland Valley, Cumberland County, Pennsylvania: Pennsylvania Geological Survey, 4th Ser., Water Resource Report 50.
- Becher, A.E.,** 1991, Groundwater resources in and near the anthracite basins of Schuylkill and adjacent counties, Pennsylvania: Pennsylvania Geological Survey, 4th Ser., Water Resource Report 64.
- Becher, A.E., and Taylor, L.E.,** 1982, Groundwater resources in the Cumberland and contiguous valleys of Franklin County, Pennsylvania: Pennsylvania Geological Survey, 4th Ser., Water Resource Report 53.
- Bennett, G.D., and Patten, E.P., Jr.,** 1960, Borehole geophysical methods for analyzing the specific capacity of aquifers in a multiaquifer well: Pennsylvania Geological Survey, 4th Ser., Water Resource Report 12.
- Biesecker, J.E., Lescinsky, J.B., and Wood, C.R.,** 1968, Water resources of the Schuylkill River Basin: Pennsylvania Department of Forests and Waters, Water Resources Bull. No. 3.
- Busch, W.F., and Shaw, L.C.,** 1966, Pennsylvania stream-flow characteristics--low-flow frequency and flow duration: Pennsylvania Department of Forests and Waters, Water Resources Bull. No. 1.
- Carswell, L.D., and Bennett, G.D.,** 1963, Geology and hydrology of the Neshannock quadrangle, Mercer and Lawrence Counties, Pennsylvania: Pennsylvania Geological Survey, 4th Ser., Water Resource Report 15.
- Carswell, L.D., Hollowell, J.R., and Platt, L.B.,** 1968, Geology and hydrology of the Martinsburg Formation in Dauphin County, Pennsylvania: Pennsylvania Geological Survey, 4th Ser., Water Resource Report 24.
- Carswell, L.D., and Lloyd, O.B., Jr.,** 1979, Geology and ground-water resources of Monroe County, Pennsylvania: Pennsylvania Geological Survey, 4th Ser., Water Resource Report 47.
- Davis, D.K.,** 1989, Groundwater resources of Pike County, Pennsylvania: Pennsylvania Geological Survey, 4th Ser., Water Resource Report 65.
- Flippo, H.N., Jr.,** 1974, Springs of Pennsylvania: Pennsylvania Department of Environmental Resources, Water Resources Bull. No. 10.
- _____, 1975, Temperatures of streams and selected reservoirs in Pennsylvania: Pennsylvania Department of Environmental Resources, Water Resources Bull. No. 11.
- _____, 1977, Floods in Pennsylvania: Pennsylvania Department of Environmental Resources, Water Resources Bull. No. 13.
- _____, 1982, Technical manual for estimating low-flow characteristics of Pennsylvania streams: Pennsylvania Department of Environmental Resources, Water Resources Bull. No. 15.
- Gallaher, J.T.,** 1973, Summary of ground-water resources of Allegheny County, Pennsylvania: Pennsylvania Geological Survey, 4th Ser., Water Resource Report 35.
- Greenman, D.W.,** 1955, Groundwater resources of Bucks County, Pennsylvania: Pennsylvania Geological Survey, 4th Ser., Water Resource Report 11.
- Greenman, D.W., Rima, D.R., Lockwood, W.N., and Meisler, Harold,** 1961, Ground-water resources of the Coastal Plain area of southeastern Pennsylvania, with special reference to effects of human activities on the quality of water in the Coastal Plain sediments: Pennsylvania Geological Survey, 4th Ser., Water Resource Report 13.

Publications of Pennsylvania State Agencies
Prepared in Cooperation with the U.S. Geological Survey--Continued

- Hall, G.M.**, 1934, Ground water in southeastern Pennsylvania: Pennsylvania Geological Survey, 4th Ser., Water Resource Report 2.
- Hollowell, J.R.**, 1971, Hydrology of the Pleistocene sediments in the Wyoming Valley, Luzerne County, Pennsylvania: Pennsylvania Geological Survey, 4th Ser., Water Resource Report 28.
- Hollowell, J.R., and Koester, H.E.**, 1975, Ground-water resources of Lackawanna County, Pennsylvania: Pennsylvania Geological Survey, 4th Ser., Water Resource Report 41.
- Johnston, H.E.**, 1966, Hydrology of the New Oxford Formation in Lancaster County, Pennsylvania: Pennsylvania Geological Survey, 4th Ser., Water Resource Report 23.
- _____, 1970, Ground-water resources of the Loysville and Mifflintown quadrangles in south-central Pennsylvania: Pennsylvania Geological Survey, 4th Ser., Water Resource Report 27.
- Leggette, R.M.**, 1936, Ground water in northwestern Pennsylvania: Pennsylvania Geological Survey, 4th Ser., Water Resource Report 3.
- Lloyd, O.B., and Carswell, L.D.**, 1981, Groundwater resources of the Williamsport Region, Lycoming County, Pennsylvania: Pennsylvania Geological Survey, 4th Ser., Water Resource Report 51.
- Lloyd, O.B., Jr., and Growitz, D.J.**, 1977, Ground-water resources of central and southern York County, Pennsylvania: Pennsylvania Geological Survey, 4th Ser., Water Resource Report 42.
- Lohman, S.W.**, 1937, Ground water in northeastern Pennsylvania: Pennsylvania Geological Survey, 4th Ser., Water Resource Report 4.
- _____, 1938, Ground water in south-central Pennsylvania: Pennsylvania Geological Survey, 4th Ser., Water Resource Report 5.
- _____, 1939, Ground water in north-central Pennsylvania: Pennsylvania Geological Survey, 4th Ser., Water Resource Report 6.
- _____, 1941, Ground-water resources of Pennsylvania: Pennsylvania Geological Survey, 4th Ser., Water Resource Report 7.
- Longwill, S.W., and Wood, C.R.**, 1965, Ground-water resources of the Brunswick Formation in Montgomery and Bucks Counties, Pennsylvania: Pennsylvania Geological Survey, 4th Ser., Water Resource Report 22.
- Meisler, Harold**, 1963, Hydrogeology of the carbonate rocks of the Lebanon Valley, Pennsylvania: Pennsylvania Geological Survey, 4th Ser., Water Resource Report 18.
- Meisler, Harold, and Becher, A.E.**, 1966, Hydrology of the carbonate rocks of the Lancaster 15-minute quadrangle, Pennsylvania: Pennsylvania Geological Survey, 4th Ser., Progress Report PR-171.
- _____, 1971, Hydrogeology of the carbonate rocks of the Lancaster 15-minute quadrangle, southeastern Pennsylvania: Pennsylvania Geological Survey, 4th Ser., Water Resource Report 26.
- Miller, R. A.**, 1974, Hydrologic data of June 1972 flood in Pennsylvania: Pennsylvania Department of Environmental Resources, Water Resources Bull. No. 9.
- Molloy, J.J.**, 1960, Flood discharge records relating to Pennsylvania streams: Pennsylvania Department of Forests and Waters.
- Newport, T.G.**, 1971, Ground-water resources of Montgomery County, Pennsylvania: Pennsylvania Geological Survey, 4th Ser., Water Resource Report 29.
- _____, 1973, Summary of ground-water resources of Clarion County, Pennsylvania: Pennsylvania Geological Survey, 4th Ser., Water Resource Report 32.
- _____, 1973, Summary of ground-water resources of Westmoreland County, Pennsylvania: Pennsylvania Geological Survey, 4th Ser., Water Resource Report 37.
- _____, 1973, Summary of ground-water resources of Washington County, Pennsylvania: Pennsylvania Geological Survey, 4th Ser., Water Resource Report 38.

Publications of Pennsylvania State Agencies

Prepared in Cooperation with the U.S. Geological Survey--Continued

- ____ 1976, Summary of ground-water resources of Luzerne County, Pennsylvania: Pennsylvania Geological Survey, 4th Ser., Water Resource Report 40.
- O'Neill, B.J., Jr.**, 1974, Greater Pittsburgh region--Construction aggregates: Pennsylvania Geological Survey, 4th Ser., Mineral Resource Report 67.
- Ott, A.N., Barker, J.L., and Growitz, D.J.**, 1973, Physical, chemical, and biological characteristics of Conewago Lake drainage basin, York County, Pennsylvania: Pennsylvania Department of Environmental Resources, Water Resources Bull. No. 8.
- Page, L.V.**, 1970, A proposed streamflow data program for Pennsylvania: Pennsylvania Department of Forests and Waters, Technical Bull. No. 3.
- Page, L.V., and Seaber, P.R.**, 1970, Water resources investigations in the Susquehanna River Basin: Pennsylvania Department of Forests and Waters Technical Bull. No. 2.
- Page, L.V., and Shaw, L.C.**, 1977, Low-flow characteristics of Pennsylvania streams: Pennsylvania Department of Environmental Resources, Water Resources Bull. No. 12.
- Patten, E.P., Jr., and Bennett, G.D.**, 1963, Methods of flow measurement in well bores: Pennsylvania Geological Survey, 4th Ser., Water Resource Report 17.
- ____ 1963, Application of electrical and radioactive well logging to ground-water hydrology: Pennsylvania Geological Survey, 4th Ser., Water Resource Report W-19.
- Pennsylvania Department of Commerce State Planning Board**, 1945, Temperatures and chemical content during low flow, July-October 1944: Pennsylvania Department of Commerce State Planning Board Pub. 14.
- ____ 1958, Industrial water supplies in Pennsylvania: Pennsylvania Department of Commerce State Planning Board Plant Location Factors Report 3.
- Pennsylvania Department of Forests and Waters**, 1936, The floods of March 1936 in Pennsylvania.
- ____ 1937, The drought of 1930 in Pennsylvania.
- ____ 1940, Natural water losses from Pennsylvania drainage basins.
- ____ 1942, Elevations of major floods along Pennsylvania rivers.
- ____ 1942, The floods of May 1942 in the Delaware and Lackawanna River Basins.
- ____ 1943, The flood of July 1942 in the upper Allegheny River and Sinnemahoning Creek Basins.
- ____ 1946, Temperatures of natural waters in Pennsylvania.
- ____ 1951, Forest and water research project: Delaware-Lehigh experimental forest: Pennsylvania Department of Forests and Waters Report 1.
- ____ 1953, Forest and water research project: Delaware-Lehigh experimental forest: Pennsylvania Department of Forest and Waters Report 2.
- ____ 1955, Forest and water research project: Delaware-Lehigh experimental forest: Pennsylvania Department of Forests and Waters Report 3.
- ____ 1961, Forest and water research project: Delaware-Lehigh experimental forest: Pennsylvania Department of Forests and Waters Report 4.
- Piper, A.M.**, 1933, Ground water in southwestern Pennsylvania: Pennsylvania Geological Survey, 4th Ser., Water Resource Report 1.
- Poth, C.W.**, 1962, The occurrence of brine in western Pennsylvania: Pennsylvania Geological Survey, 4th Ser., Mineral Resource Report 47.
- ____ 1963, Geology and hydrology of the Mercer quadrangle, Mercer, Lawrence, and Butler Counties, Pennsylvania: Pennsylvania Geological Survey, 4th Ser., Water Resource Report 16.
- ____ 1963, The ground-water observation-well program in Pennsylvania: Pennsylvania Geological Survey, 4th Ser., Water Resource Report 20.

Publications of Pennsylvania State Agencies
Prepared in Cooperation with the U.S. Geological Survey--Continued

- ____ 1968, Hydrology of the metamorphic and igneous rocks of central Chester County, Pennsylvania: Pennsylvania Geological Survey, 4th Ser., Water Resource Report 25 (2nd edition 1973).
- ____ 1972, Hydrology of the Martinsburg Formation in Lehigh and Northampton Counties, Pennsylvania: Pennsylvania Geological Survey, 4th Ser., Water Resource Report W-30.
- ____ 1973, Summary of ground-water resources of Armstrong County, Pennsylvania: Pennsylvania Geological Survey, 4th Ser., Water Resource Report W-34.
- ____ 1973, Summary of ground-water resources of Butler County, Pennsylvania: Pennsylvania Geological Survey, 4th Ser., Water Resource Report W-36.
- ____ 1973, Summary of ground-water resources of Beaver County, Pennsylvania: Pennsylvania Geological Survey, 4th Ser., Water Resource Report W-39.
- ____ 1977, summary of ground-water resources of Lancaster County Pennsylvania: Pennsylvania Geological Survey, 4th Ser., Water Resource Report 43.
- Richards, D.B., McCoy, H.J., and Gallaher, J.T.**, 1987, Groundwater resources of Erie County, Pennsylvania: Pennsylvania Geological Survey, 4th Ser., Water Resource Report 62.
- Rima, D.R.**, 1955, Ground water resources of the Lansdale area, Pennsylvania: Pennsylvania Geological Survey, 4th Ser., Bull. Progress Report 146.
- Rima, D.R., Meisler, Harold, and Longwill, Stanley**, 1962, geology and hydrology of the Stockton Formation in southeastern Pennsylvania: Pennsylvania Geological Survey, 4th Ser., Water Resource Report 14.
- Rossow, C.J., and Coll, M.B., Jr.**, 1970, Water-resources investigations in the upper Ohio River basin: Pennsylvania Department of Forests and Waters Technical Bull. No. 1.
- Schiner, G.R., and Gallaher, J.T.**, 1979, Geology and ground-water resources of western Crawford County, Pennsylvania: Pennsylvania Geological Survey, 4th Ser., Water Resource Report 46.
- Schiner, G.R., and Kimmel, G.E.**, 1976, Geology and ground-water resources of northern Mercer County, Pennsylvania: Pennsylvania Geological Survey, 4th Ser., Water Resource Report 33.
- Shaw, L.C., and Busch, W.F.**, 1970, Pennsylvania Gazetteer of streams--Part 1: Pennsylvania Department of Forests and Waters, Water Resources Bull. No. 6.
- Shaw, L.C.**, 1984, Pennsylvania Gazetteer of streams, Part II, Pennsylvania Department of Environmental Resources, Water Resources Bull., No. 16.
- Sloto, R.A.**, 1994, Geology, hydrology, and ground-water quality of Chester County, Pennsylvania: Chester County Water Resources Authority Water-Resource Report 2.
- Stoner, J.D., Williams, D.R., Buckwalter, T.F., Felbinger, J.K., and Pattison, K.L.**, 1987, Water resources and the effects of coal mining, Greene County, Pennsylvania: Pennsylvania Geological Survey, 4th Ser., Water Resource Report 63.
- Ulanowski, J.T., Shertzer, R.H., Barker, J.L., and Hartman, R.T.**, 1981, Trophic classification and characteristics of twenty-six publicly owned Pennsylvania lakes: Pennsylvania Department of Environmental Resources, Publication No. 61.
- Van Tuyl, D.W.**, 1951, Ground water for air conditioning at Pittsburgh, Pennsylvania: Pennsylvania Geological Survey, 4th Ser., Water Resource Report 10.
- Van Tuyl, D.W., and Klein, N.H.**, 1951, Ground-water resources of Beaver County, Pennsylvania: Pennsylvania Geological Survey, 4th Ser., Water Resource Report 9. (Supplement to Water Resource Report 3.)
- White, W.F., Jr., and Lindholm, C.F.**, 1950, Water-resources investigations relating to the Schuylkill River restoration project, 1947-49: Pennsylvania Department of Forests and Waters.
- Williams, J.H. and Eckhardt, D.A.**, 1987, Groundwater resources of the Berwick-Bloomsburg-Danville area, east-central Pennsylvania: Pennsylvania Geological Survey, 4th Ser., Water Resource Report 61.

Publications of Pennsylvania State Agencies
Prepared in Cooperation with the U.S. Geological Survey--Continued

Wood, C.R., 1980, Summary groundwater resources of Centre County, Pennsylvania: Pennsylvania Geological Survey, 4th Ser., Water Resource Report 48.

_____, 1980, Groundwater resources of the Gettysburg and Hammer Creek Formations, southeastern Pennsylvania: Pennsylvania Geological Survey, 4th Ser., Water Resource Report 49.

Wood, C.R., Flippo, H.N., Lescinsky, J.B., and Barker, J.L., 1972, Water resources of Lehigh County, Pennsylvania: Pennsylvania Geological Survey, 4th Ser., Water Resource Report 31.

Wood, C.R., and MacLachlan, D.B., 1978, Geology and groundwater resources of northern Berks County, Pennsylvania: Pennsylvania Geological Survey, 4th Ser., Water Resource Report 44.

Wood, P.R., and Johnston, H.E., 1964, Hydrology of the New Oxford Formation in Adams and York Counties, Pennsylvania: Pennsylvania Geological Survey, 4th Ser., Water Resource Report 21.

Other Publications

- Barton, G.J., and Risser, D.W.**, Approach for delineating the contributing areas of a well field in a carbonate-valley aquifer: USEPA/National Water Well Association Karst Hydrology Conference, Nashville, Tenn., December 4, 1991.
- Brady, K.B.C., and Cravotta, C.A., III**, 1992, Acid-base accounting--an improved method of interpreting overburden chemistry to predict quality of coal-mine drainage, *in* Proceedings 13th Annual Meeting West Virginia Surface Mine Drainage Task Force: Morgantown, W. Va., West Virginia University.
- Brady, K.B.C., Smith, M.W., Beam, R.L., Cravotta, C.A., III**, 1990, Effectiveness of the addition of alkaline materials at surface coal mines in preventing or abating acid mine drainage--Part 2. Mine site case studies, *in* Skousenk J., Sencindiver, J., and Samuel, D., eds., Proceedings of the 1990 Mining and Reclamation Conference and Exhibition, Charleston, W. Va. April 23-26, 1990: Morgantown, W. Va., West Virginia University, v. 1, p. 226-241.
- Breen, K.J., Gavin, A.J., and Schnabel, R.R.**, Atrazine occurrence and yields in the Susquehanna River and tributaries during base flow conditions in the lower Susquehanna River Basin, June 1993: 1994 Chesapeake Research Conference, Norfolk, Va., June 1-3, 1994.
- Breen, K.J., Hainly, R.A., Siwec, S.F., Bilger, M.D.**, Design and implementation of the National Water-Quality Assessment in the lower Susquehanna River Basin, Pennsylvania and Maryland (abs.): Mid-Atlantic Highlands Area Environmental Monitoring and Assessment Conference, Hershey, Pa., February 23-25, 1994.
- Chen, C., and Armbruster, J.T.**, 1980, Dam-break wave model: formulation and verification: Journal of the Hydraulics Division, May, p. 747-767.
- Chichester, D.C.**, Conceptual hydrogeologic framework of a regolith-mantled carbonate system, Cumberland Valley, Pennsylvania: Pennsylvania Geologists Conference on Geology of South Mountain, Carlisle, Pennsylvania, September 1991.
- Cravotta, C.A., III**, 1989, Geochemical evolution of ground water at a reclaimed surface coal mine in western Pennsylvania (abs.): Geological Society of America, GSA Abstracts with Programs, v. 21, no. 2, p. 10.
- Cravotta, C.A., III**, 1991, Geochemical evolution of acidic ground water at a reclaimed surface coal mine in western Pennsylvania *in* Oaks, W.R., and Bowden, J., eds., Proceedings of the 1991 National Meeting of the American Society of Surface Mining and Reclamation May 14-17, 1991, Durango, Co.: Princeton, W.Va., American Society of Surface Mining Reclamation, p. 43-68.
- Cravotta, C.A., III**, 1992, Effect of sewage sludge on formation of acidic water at reclaimed coal mines in western Pennsylvania (abs.): Geological Society of America, GSA Abstracts with Programs, v. 24, no. 3, p. 14.
- Cravotta, C.A., III**, 1992, Secondary iron sulfate minerals as sources of stored acidity and ferric ions in acidic ground water at a reclaimed coal mine in Pennsylvania (abs.), *in* Book of Abstracts 204th ACS National Meeting, Washington, D.C., August 23-28, 1992: Washington, D.C., American Chemical Society Part 1, GEOC 78.
- Cravotta, C.A., III**, 1994, Section 12.2.2 Water, (Part of chap. 12--Coal, sect. 2.0 Environmental Considerations) of Mining Environmental Handbook, Society of Mining Engineers.
- Cravotta, C.A., III**, 1994, Secondary iron-sulfate minerals as sources of sulfate and acidity: Geochemical evolution of acidic ground water at a reclaimed surface coal mine in Pennsylvania: American Chemical Society Symposium Series 550, chap. 23, p. 345-364.
- Cravotta, C.A., III**, 1998, Effect of sewage sludge on formation of acidic ground water at a reclaimed coal mine: Ground Water, vol. 35, no. 6, p. 9-19.
- Cravotta, C.A., III, Brady, K.B.C., Gustafson-Minnich, L.C., Kovalchuk, T.E., and DiMatteo, M.R.**, 1994, Geochemical and geohydrological characteristics of bedrock and spoil from two methods of mining at a reclaimed surface coal mine in Clarion County, Pennsylvania, U.S.A., *in* Proceedings of the International Land Reclamation and Mine Drainage Conference, Pittsburgh, Pa., April 25-29, 1994.

Other Publications--Continued

- Cravotta, C.A., III, Dugas, D.L., and Brady, K.B.C.,** 1994, Effects of selective handling of pyritic, acid-forming materials on the chemistry of pore gas and ground water at a reclaimed surface coal mine in Clarion County, Pennsylvania, U.S.A., *in* Proceedings of the International Land Reclamation and Mine Drainage Conference, Pittsburgh, Pa., April 25-29, 1994.
- Cravotta, C.A., III, Brady, K.B.C., Smith, M.W., Beam, R.L.,** 1990, Effectiveness of the addition of alkaline materials at surface coal mines in preventing or abating acid mine drainage--Part 1. Geochemical considerations, *in* Skousen, J., Sencindiver, J., and Samuel, D., eds., Proceedings of the 1990 Mining and Reclamation Conference and Exhibition, Charleston, W.Va., April 23-26, 1990: Morgantown, W.Va., West Virginia University, v. 1, p. 221-225.
- Crawford, J.K.,** 1990, Strategy for pesticide monitoring in the Yakima River Basin using tissue analysis (abs.), *in* Pesticides in Natural Systems: How can their effects be monitored?: Seattle, Wash., USEPA, Region 10, EPA 910/9-91-011, p. 14.
- Crawford, J.K.,** 1992, Review of "Biology of freshwater pollution": Water Resources Bulletin, v. 28, no. 2, p. 426.
- Emrich, G.H.,** 1966, Ground-water geology: Pennsylvania Department of Health, Division of Sanitary Engineering Pub. No. 11.
- Gerhart, J.L.,** 1984, An approach to regional ground-water flow modeling in secondary-permeability terrane in Pennsylvania and Maryland: Ground Water, March-April, v. 22, no. 2, pp. 168-175.
- Goode, D.J.,** 1996, Direct simulation of groundwater age: Water Resources Research, v. 32, no. 2, p. 289-296.
- Goode, D.J.,** CFC transport to and degradation near a shallow water table, Mirror Lake Area, Grafton County, New Hampshire: American Geophysical Union, 1997 Spring Meeting, supplement to EOS, v. 78, no. 17., p. S176.
- Goode, D.J.,** 1997, Composite recovery type curves in normalized time from Theis' exact solution: Ground Water, v. 35, no. 4, p. 672-678.
- Goode, D.J., Senior, L.A., and Amantia, Andrea,** 1997, Aquifer tests and regional ground-water flow in fractured Triassic rock, Lansdale, Pennsylvania: Geological Society of America, GSA Abstracts with Programs, v. 29, no. 1, p. 49.
- Hainly, R.A., and Bickford, T.M.,** Factors affecting pesticide concentrations in streams and shallow wells of the Lower Susquehanna River Basin, 1993-95: American Geophysical Union, 1997 Spring Meeting, supplement to EOS, v. 78, no. 17., p. S135.
- Hainly, R.A., Bilger, M.D., and Siwiec, S.F.,** Trace elements in bed sediment of streams in the ridge and valley province of Pennsylvania, lower Susquehanna River Basin study unit, National Water-Quality Assessment Program (NAWQA): a comparison of sampling methods and results for selected element concentrations from the NAWQA and National Uranium Resource Evaluation (NURE) programs (abs.): Mid-Atlantic Highlands Area Environmental Monitoring and Assessment Conference, Hershey, Pa., February 23-25, 1994.
- Hainly, R.A., and Kahn, J.M.,** 1996, Factors affecting yields of selected herbicides in the Susquehanna and Potomac River Basins, June 1994: Water Resources Bulletin, v. 32, no. 5, p. 965-984.
- Hall, D.W.,** Effects of nutrient management on nitrate levels in ground water near Ephrata, Pennsylvania: Ground Water, v. 30, no. 5, p. 720-730.
- Hall, D.W.,** Effects of pipe-outlet terracing on ground-water quantity near Churchtown, Pennsylvania: Ground Water, v. 31, no. 1, p. 41-49.
- Hall, D.W.,** Methods of analyzing ground-water quality and agricultural-activities data in the Conestoga River headwaters, Lancaster County, Pennsylvania (abstract): Technical program of the Association of Engineering Geologists, October 1-5, 1990.
- Hall, D.W.,** Techniques for evaluating the effects of agricultural best-management practices on ground-water quantity and quality at two field sites, Lancaster County, Pennsylvania: Proceedings of the 1990 Rural Clean Water Program Workshop, September 17-20, 1990: Department of Water and Natural Resources, Pierre, S. Dak.

Other Publications--Continued

- Hall, D.W., and Lietman, P.L.,** Herbicides in surface and ground water of agricultural, carbonate valleys, Lancaster County, Pennsylvania: Abstract of the Third National Research Conference: Pesticides in the Next Decade: The Challenges Ahead: Virginia Water Resources Research Center, Virginia Polytechnic Institute and State University.
- Hall, D.W., and Risser, D.W.,** 1992, Effects of nutrient management on nitrogen flux through a karst aquifer, Conestoga River Headwaters Basin, Pennsylvania: Proceedings of the National Rural Clean Water Program Symposium, Orlando, Fla., September 13-17, 1992, p. 115-130.
- Hippe, D.J., Witt, E.C., III, Baumbach, G.E., Brightbill, R.A., Giovannitti, R.M., and Char, S.J.,** Assessment of herbicide contamination of water resources in Cumberland and Lancaster Counties, Pennsylvania, using enzyme-linked immunosorbent assay methods: Abstracts with Programs, 1992, Geological Society of America, Northeastern Section, March 26-28, 1992, v. 24, no. 3, p. 28.
- Hippe, D.J., Witt, E.C., III, and Giovannitti, R.M.,** Concentrations and loads of nutrients and selected herbicides discharged from two spring basins in the Cumberland Valley, Pennsylvania: Abstracts with Programs, 1992, Geological Society of America, Northeastern Section, March 26-28, 1992, v. 24, no. 3, p. 28.
- Hoffman, S.A.,** A site verification program using ARC/INFO geographic information system software (abs.): National Computer Technology Meeting, New Orleans, La., April 10-15, 1994.
- Jones, B.L., and Unger, D.G.,** 1962, Measuring effects of conservation: Soil and Water Conservation Journal, v. 17, no. 4, p. 172-174.
- Koerkle, E.H.,** 1992, Effects of nutrient management on surface-water quality in a small watershed in Pennsylvania: Proceedings of the National Rural Clean Water Program Symposium, Orlando, Fla., September 13-17, 1992, p. 193-207.
- Langland, M.J.,** 1992, Atmospheric deposition of ammonia from open manure-storage lagoons in south-central Pennsylvania: The Environmental Professional, v. 14, no. 1, p. 28-37.
- Langland, M.J., and Hainly, R.A.,** Changes in bottom-surface elevations in three reservoirs on the Lower Susquehanna River following the January 1996 flood—Implications for nutrient and sediment loads to the Chesapeake Bay: American Geophysical Union, 1997 Spring Meeting, supplement to EOS, v. 78, no. 17., p. S135.
- Lenat, D.R., and Crawford, J.K.,** 1994, Effects of land use on water quality and aquatic biota of three North Carolina piedmont streams: Hydrobiologia.
- Lietman, P.L.,** 1992, Effects of pipe-outlet terracing on runoff water quantity and quality at an agricultural field site, Conestoga River Headwaters, Pennsylvania: Proceedings of the National Rural Clean Water Program Symposium, Orlando, Fla., September 13-17, 1992, p. 97-113.
- Lietman, P.L., Gerhart, J.M., Wetzel, K.L.,** 1989, Comparison of methods for sampling dissolved nitrogen in a fractured carbonate-rock aquifer. Winter 1989 Ground Water Monitoring Review, p. 197-202.
- Lietman, P.L., and Hall, D.W.,** Herbicides in surface and ground water of agricultural, carbonate valleys, Lancaster County, Pennsylvania: Proceedings of the Third National Research Conference on Pesticides in the Next Decade: The Challenges Ahead: Virginia Water Resources Research Center, Virginia Polytechnic Institute and State University, Blacksburg, Va.
- Lindsey, B.D., and Siwec, S.F.,** Well selection for assessing ground-water quality in carbonate valleys in the valley and ridge province of Pennsylvania, lower Susquehanna River Basin study unit, National Water-Quality Assessment Program (abs.): Mid-Atlantic Highlands Area Environmental Monitoring and Assessment Conference, Hershey, Pa., February 23-25, 1994.
- Love, S.K.,** 1956, Quality of water in the upper Ohio River Basin: Man and the waters of the upper Ohio Basin, Pymatuning Lab. Field Biology Spec. Pub. 1.
- Low, D.J.,** Casing depth--surrogate for regolith thickness?: Abstracts with Programs, 1992, Geological Society of America, Northeastern Section, March 26-28, 1992, v. 24, no. 3, p. 59.

Other Publications--Continued

- Lystrom, D.J., and Rinella, F.A.,** 1978, A method for estimating the regional effects of land use on river-water quality, Susquehanna River Basin, Pennsylvania and New York: American Chemical Society 194, p. 732-839.
- Makuch, J., and Ward, J.R.,** 1986, A quick look at Pennsylvania Groundwater. Pamphlet. The Pennsylvania State University and the U.S. Geological Survey cooperating.
- Makuch, J., and Ward, J.R.,** 1988, Groundwater and Agriculture in Pennsylvania. Circular 341. Published by the Pennsylvania State University.
- Macchiarelli, P.E., Sloto, R.A., and Towle, M.T.,** Use of borehole geophysics to construct a lithostratigraphic model of the Stockton formation in an urbanized area, Harboro, Pennsylvania: Abstracts with Programs, 1992, Geological Society of America, Northeastern Section, March 26-28, 1992, v. 24, no. 3, p. 60.
- Paulson, R.W.,** 1970, Variation of the longitudinal dispersion coefficient in the Delaware River Estuary as a function of fresh water inflow: Water Resources Research, v. 6, no. 2, p. 516-526.
- Richards, D.B.,** 1985, Ground-water information manual: Coal mine permit applications--Vol. I: Office of Surface Mining Reclamation and Enforcement. 275 p.
- Richards, D.B., and others,** 1987, Ground-water information manual: Coal mine permit applications--Vol. II: Office of Surface Mining Reclamation and Enforcement. 396 p.
- Romanelli, C.J., and Griffith, W.M., eds.,** 1974, The Wrath of Agnes--A complete pictorial and written history of the June 1972 flood in the Wyoming Valley: Wilkes-Barre, Pennsylvania, Media Affiliates, Inc., 200 p.
- Saad, D.A., and Cravotta, C.A., III,** 1991, Modeling of ground-water flow along a cross section through a reclaimed surface coal mine in western Pennsylvania (abs.), *in* Oaks, W.R., and Bowden, J., eds., Proceedings of the 1991 National Meeting of the American Society of Surface Mining and Reclamation, May 14-17, 1991, Durango, Co.: Princeton, W.Va., American Society of Surface Mining and Reclamation, p. 545.
- Senior, L.A.,** Seasonal variability of radon-222, radium-226, and radium-228 in ground water in a water-table aquifer, southeastern Pennsylvania: Abstracts with Programs, 1992, Geological Society of America, Northeastern Section, March 26-28, 1992, v. 24, no. 3, p. 74.
- Senior, L.A., and Conger, R.W.,** 1997, Use of borehole geophysical logging and water-level data to characterize the ground-water system in the Lockatong and Brunswick Formations (abs.): Geological Society of America, GSA Abstracts with Programs, v. 29, no. 1, p. 78.
- Senior, L.A., and Vogel, K.L.,** Geochemistry of radium-226 and radium-228, and radon-222 in the ground water of the Chickies Quartzite, southeastern Pennsylvania (abs.): Proceedings of Conference on Ground Water in the Piedmont, Charlotte, N.C., October 16-18, 1989: U.S. Geological Survey
- Shank, G.L.,** Ingres performance issues involving the logging and locking systems (abs.): National Computer Technology Meeting, 1994, New Orleans, La., April 10-15, 1994.
- Siwiec, S.F., and Southers, K.L.,** Incorporating maps into Water Resources Division reports (abs.): National Computer Technology Meeting, 1994, New Orleans, La., April 10-15, 1994.
- Sloto, R.A.,** 1985, Effects of Flood Controls Proposed for the Sucker Run Basin, Chester County, Pennsylvania: Chester County Water Resources Authority, Water Resource Report 1.
- Sloto, R.A.,** Drought management based on water-level data, Chester County, Pennsylvania [abstract] *in* Dhamotharan, Dharmo, Mcwreath, H.C., and Johnson, A.I., eds., Proceedings of the 27th Annual Conference on Water Management of River Systems and Symposium on Resource Development of the Lower Mississippi River, New Orleans, La., September 8-13, 1991: Bethesda, Md., American Water Resources Association, p. 439-440.
- Sloto, R.A.,** Sampling borehole flow to quantify aquifer cross-contamination by volatile organic compounds: U.S. Geological Survey 6th Toxic Substances Hydrology Technical Meeting, Colorado Springs, Colo., September 20-24, 1993.

Other Publications--Continued

Sloto, R.A., 1997, Use of borehole geophysical methods to define ground-water-flow systems in the Stockton Formation (abs.): Geological Society of America, GSA Abstracts with Programs, v. 29, no. 1, p. 81.

Sloto, R.A., and Dickinson, L.L., 1994, Famous mineral localities: the French Creek Mine, St. Peters, Chester County, Pennsylvania: The Mineralogical Record, v. 25, no. 2, March-April 1994, p. 105-120.

Sloto, R.A., Macchiaroli, P.E., and Towle, M.T., Identification of a multiaquifer ground-water cross-contamination problem in the Stockton Formation by use of borehole geophysical methods, Hatboro, Pennsylvania: Proceedings of the Symposium on the Application of Geophysics to Engineering and Environmental Problems, Oakbrook, Ill., April 26-29, 1992, v. 1, p. 21-35.

Sopper, W.E., and Lull, H.W., 1970, Streamflow characteristics of the northeastern United States: Pennsylvania State University, Coll. Agriculture Agr. Expt. Sta. Bull. 766.

Stoner, J.D., 1983, Probable hydrologic effects of subsurface mining: Ground Water Monitoring Review, Winter, v. 3, no. 1, p. 128-137.

Thompson, R.E., and Durlin, R.R., 1997, 1996—A historical year for statewide and regional floods in the Commonwealth of Pennsylvania (abs.): Geological Society of America, GSA Abstracts with Programs, v. 29, no. 1, p. 85.

Truhlar, J.F., 1976, Determining suspended-sediment discharge from turbidity record: Third Federal Interagency Sedimentation Conference Proceedings, Denver, Colorado, March 1976, p. 7:65-7:74.

Witt, E.C., III, and Bikerman, Michael, 1992, Geochemical mass-balance in a small forested watershed in southwestern Pennsylvania: Proceedings of the 1991 National Conference, Irrigation and Drainage Division, American Society of Civil Engineers, Hawaii Section, July 22-26, 1991, p. 516-523.

Weber, W.G., Jr., and Reed, L.A., 1976, Sediment runoff during highway construction: Civil Engineering, March, p. 76-79.

U.S. Geological Survey Fact Sheets

FS-038-95. United States Geological Survey programs in Pennsylvania.[1995]

FS-137-95. National Water-Quality Assessment Program—the Allegheny-Monongahela River Basin, by S.D. McAuley.

FS-103-96. Statewide floods in Pennsylvania, January 1996, by R.E. Thompson, Jr.

FS-218-95. Borehole geophysical logging for water-resources investigations in Pennsylvania, by R.W. Conger.

FS-176-96. Quality of ground water at selected sites in the Upper Mahoning Creek Basin, Pennsylvania, by M.J. Langland.

FS-193-96. Study design and preliminary data analysis for a streambank fencing project in the Mill Creek Basin, Pennsylvania, by D.G. Galeone and E.H. Koerkle..

FS-038-96. United States Geological Survey programs in Pennsylvania. [1996]